## IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-53. (Cancelled)

54. (New) A method for estimating the pose of an articulated figure, comprising the steps of:

obtaining dense range data which describes the distance of points on the figure from a reference;

shifting a focus of expansion of a point on the figure independently by an integer value; and

processing said dense range data to estimate the pose of the figure.

55. (New) The method of claim 54 wherein the dense range data is processed in accordance with a set of depth constraints to estimate the pose.

56. (New) The method of claim 55 wherein said depth constraints are linear.

57. (New) The method of claim 55 further including the steps of obtaining brightness data from an image of the figure, and processing said brightness data in accordance with a set of linear brightness constraints to estimate the pose.

58. (New) The method of claim 55 wherein said depth constraints are represented by means of twist mathematics.

59. (New) The method of claim 54 wherein said dense range data is compared with an estimate of pose to produce an error value, and said estimate is iteratively revised to minimize said error.

60. (New) The method of claim 54 further including the steps of obtaining brightness data from an image of the figure, and processing said brightness data in accordance with a set of brightness constraints to estimate the pose.

61. (New) A method for estimating the pose of an object, comprising the steps of:

obtaining dense range data which describes the distance of points on the object from a reference;

shifting a focus of expansion of a point on the object independently by an integer value; and

processing said dense range data in accordance with a set of linear depth constraints to estimate the pose of the object.

62. (New) The method of claim 61 wherein the object is articulated.

63. (New) The method of claim 62 wherein said depth constraints are represented by means of twist mathematics.

64. (New) The method of claim 63 further including the steps of mapping parameters which describe rotation and translation of the object to a set of linear parameters, solving for the depth constraints, and re-mapping back to the original parameters.

65. (New) The method of claim 61 further including the steps of obtaining brightness data from an image of the object, and processing said brightness data in accordance with a set of linear brightness constraints to estimate the pose.

66. (New) The method of claim 61, wherein an estimate of the pose of the object includes an estimate for each of the orientation and translational positions of the object, and further including the steps of decoupling the estimate of orientation from the estimate of translational position.

67. (New) The method of claim 62, wherein said reference comprises a location on the object, and the pose is estimated, at least in part, from the positions of points on the object relative to said location.

68. (New) The method of claim 61, wherein the pose of the object is estimated for each image in a sequence of images, and further including the step of selecting a rigid translation value for each point on the object from one image to the next.

69. (New) The method of claim 68, wherein said rigid translation value is an integer value.

70. (New) The method of claim 68, wherein the rigid translation values are different for different points on the object.

71. (New) A method for estimating the pose of an object appearing in a sequence of video images, comprising the steps of:

obtaining dense brightness data for pixels in each of said video images;

obtaining dense range data for pixels in each of said video images;

determining an initial pose for the object in one of said video images; and

estimating changes in at least one of the translational position and rotational orientation of the object for successive images, on the basis of said brightness data and said range data, shifting a focus of expansion of a point on the object independently by an integer to thereby estimate the pose of the object in successive images.

72. (New) The method of claim 71, wherein the object is articulated.

73. (New) The method of claim 71, wherein said estimates are obtained by means of linear constraint equations that are applied to said brightness data and said range data.

74. (New) The method of claim 54, wherein shifting the focus of expansion improves an accuracy of a constraint.